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ORIGINAL LECTURES.

CLINICAL LECTURE

ON PNEUMONIA, HÆMATEMESIS OF DOUBTFUL ORIGIN, AND ATROPHIC PULMONARY EMPHYSEMA.

Delivered at Bellevue Hospital, New York,

BY PROF. AUSTIN FLINT, SR.

Reported for the *Philadelphia Medical Times.*

PNEUMONIA.

IN introducing the present case to you, gentlemen, I would call your attention, in the first place, to the flush which is observable upon the patient's face. It is not by any means as well marked as is sometimes the case in the same disease, but none of you, I think, will have any difficulty in making out that it is distinctively circumscribed. In this respect it differs from the flush seen in typhoid and other continued fevers, in which the coloring of the cheeks extends over a much larger area and shades off much more gradually. The significant point about it is that it is a pretty good diagnostic sign of one particular disease; and if, therefore, the supposition of hectic be excluded, very fair evidence is afforded by it that this man is suffering from that disease, which may be designated either as lobar pneumonia or pneumonic fever, according as you prefer to call it.

I will now proceed to read the history of the case, and, in connection with this, I will ask your attention particularly to the following points of interest:

The situation in which the trouble in the lung commenced.

The progress of the disease.

The fact that the affection went on to a certain point in the way towards recovery without treatment.

The effect of treatment after admission to the hospital.

The prognosis.

The patient is a man of 40, who was admitted here the day before yesterday. He has always enjoyed good health, with the exception of an attack of acute articular rheumatism four years ago, which lasted for about seven weeks. He does not think that there was any cardiac complication of the disorder; and there is at present no evidence whatever of any organic trouble about the heart. Two weeks and two days before admission it seems that he entered upon a six days' walking-match in Philadelphia, and during the course of this he succeeded in making three hundred and eighty miles. At the end of the contest he felt perfectly well, but on the day following its conclusion drank pretty freely. During the next three days he felt moderately well, but was not in his usual good health, and on the fifth day after he ceased walking he was seized with a severe chill, from which occurrence we may date the onset of the pneumonic attack. Then there was pain in the side (in the region of the right nipple), which is also one of the initial symptoms of pneumonia, as you know; and also fever, thirst, constipation, and expectoration, the latter being at first white, and afterwards more or less discolored with blood. On the fifth day after the chill he felt somewhat better, and came over to New York; but up to the time of his admission to the hospital he took no medicine whatever, with the exception of one dose of some cathartic agent.

When he was admitted the day before yesterday he seemed to feel pretty comfortable. When an examination of the chest was made, there was found to be dulness on percussion on the upper part of the right lung in front, while behind there was dulness on the whole upper lobe, as well as the upper part of the lower lobe. There were, in addition, the ordinary signs of pneumonic consolidation in these localities, and a certain amount of febrile reaction. The urine was found to contain a slight trace of albumen.

On the morning after admission (that is, yesterday) the temperature was 103½°, and at half-past eleven fifteen grains of sulphate of quinine were administered. By five P.M. the temperature had fallen to 102½°; and it seems altogether fair to attribute this favorable result to the full dose of quinine, inasmuch as in this affection we would naturally look for an exacerbation of the fever in the evening. If we make allowance for this increment, therefore, it is quite probable that the temperature was in reality reduced more than one degree by the remedy. On this day it is noted that retention of urine occurred, and that at four P.M. sixteen ounces of high-

colored urine were withdrawn by means of the catheter.

No subsequent dose of quinine was given yesterday; but this morning two doses, of ten grains each, have been exhibited, and we now find (two P.M.) that the temperature is 101°. A certain amount of whisky has also been given for the first time to-day. Although the temperature is materially lower than it was then, the patient does not feel so well to-day as he did yesterday; and this morning I learn that he was troubled with vomiting. Let us now see what is the present condition of the chest, as revealed by the physicial signs. Over the upper lobe of the right lung we find that there is dulness on percussion, and that, although this is marked, it by no means amounts to flatness. When the ear is applied here, we get a few redux râles, as they are called, and find that the respiration is broncho-vesicular in character; which shows that there is still a certain amount of pulmonary consolidation remaining. This is also indicated by the increased vocal resonance and by the bronchophonic whisper present; while there is not a sufficient solidification to give rise to bronchophony or purely bronchial respiration. On the upper part of the lower lobe behind we get the signs of a more complete consolidation; and it is interesting to note the further extension of the process here in connection with the decrease of the temperature that we have remarked and the receding signs found above.

What, then, has been the course of the disease in the lung in this case? It evidently first affected the upper lobe, which, as you know, is an exception to the general rule in pneumonic inflammation. When five days had elapsed, the local affection subsided (without any medication), and the patient felt so much better that he started on a journey, as we have seen. In this connection I may remark that I have observed many cases (quite a number of which I have reported) which seem to go to show that exertion and exposure in pneumonia do not ordinarily cause any increase of the disease. Here, however, it is fair to suppose that there has been a second and more recent development of trouble in the lung. Still, the inflammatory process may even yet not spread throughout the entire second lobe. The rule in pneumonia is that if only one lobe is at first attacked, the whole of it becomes affected; but if subsequently the disease extends to a second lobe, only a portion of it is involved. At present the affection, as indicated by the physical signs, is in the stage of resolution in the upper lobe, and in the stage of consolidation in the lower one. Judging from a local stand-point, therefore, we infer that there have been two successive invasions of the disease.

Therapeutically, also, this case presents a number of points of interest. In the first place, as we have seen, the patient did well for five days without any treatment whatever, with the exception of a dose of cathartic medicine; and this is by no means an unusual case in this respect. But at the time of his admission a secondary attack was becoming developed, with a considerable increase of temperature. (You will remember that it was 103½° yesterday morning.) Quinine in full doses had the effect of markedly reducing this; and here I should like to say that, in this hospital, I have noticed the above result over and over again. But more than this. Not only have I seen quinine act in this prompt manner as an apyretic, but I have also not infrequently observed that it actually cut short the attack. In a certain proportion of cases, therefore, I concluded that it acts as an abortive agent. A few cases of pneumonia occur, indeed, in which the disease aborts naturally; but I believe that the experience of every observer goes to show that this number is exceedingly small. Yet, although we cannot always, of course, expect this desirable result from the use of quinine, and although in certain instances it may, perhaps, not be of any benefit at all, as far as we can judge, there is this to be said about it,—that, even if it does no good, it does no harm whatever, beyond occasionally producing a little cinchonism. The chances, however, are all in favor of its being of service in any case in which it may be employed; and therefore I desire to impress upon you the importance of never neglecting to resort to this agent, in full doses, in pneumonia. To-day, as we have learned, twenty grains of quinine have been administered in this case; and I believe that the patient at present requires fully as much as this in the twenty-four hours, notwithstanding the fact that the temperature is now comparatively low.

It will be an interesting point here to note whether the disease will spread throughout the lobe which is now partially

affected by it, or whether it will stop short of this. The pulse, I find, is now only seventy-eight, and that certainly does not seem to indicate a long-continued attack of pneumonic fever; but still we cannot decide positively as to this beforehand. Just here I might pause for a moment to speak of the relation between the pulse and the temperature in disease in general. Although this in the majority of cases may be pretty constant, we occasionally meet with instances in which we should be very greatly misled if we took it for granted that because one is but little different from normal, this is the case with the other also. Thus, I remember one instance in which, finding that the pulse was not at all accelerated, I supposed that there was no fever present, but yet, happening to test the temperature, I found that the thermometer indicated 102°.

The heart's action, I am glad to say, is very good indeed in this patient (which may perhaps be due in part, at least, to some digitalis which he is at present taking), and this, I need hardly mention, is a most important point. I do not hesitate to state that I am of the opinion, with the greater number of observers, that an ante-mortem heart-clot does sometimes form in various diseases (especially pneumonia), and that it is this accident which not infrequently is the immediate cause of death. It is quite possible that the unusually low pulse in this instance, as well as the good condition of the heart, may perhaps also be partially due to the digitalis that is being given. With the administration of quinine, digitalis, sufficient stimulus, and appropriate nourishment, every indication in this case is, I believe, at present fulfilled, and there seems to be little room for doubt that the patient will do well.

HÆMATEMESIS OF DOUBTFUL ORIGIN.

Our next patient is Catherine M., who is 30 years of age, and a domestic by occupation. She is married, and is the mother of four children. The family history is unimportant. She has suffered from a form of retinitis, and her field of vision is much contracted in consequence. In 1873 she had some kind of a fever, the exact nature of which cannot now be determined, and it was six months before she recovered from the effects of this. From that time her health remained good up to last October (six or seven months ago), when she began to suffer from pains in the right hypogastric and lumbar regions, and these still continue to a greater or less extent. About the latter part of February (two months since) her stomach became very irritable, and since then she has continued to throw up almost everything that she has taken. She was admitted two weeks after the latter trouble commenced, and during her residence in the hospital there have been but three days in which she has not vomited. All the pain that she has now is in the lower part of the abdomen. There is none at all in the stomach, but she complains of a burning sensation in the region of that organ. Another feature of the case is marked diarrhœa. The article that the patient can retain best on the stomach is pure whisky; but even this she sometimes throws up. A great variety of remedies have been tried unsuccessfully here for the control of the vomiting, among which may be mentioned ice, oxalate of cerium, wine of ipecacuanha, nitrate of silver, jaborandi internally, and mustard and blisters externally.

I doubt not that in your future practice you will meet with many cases of women in which you will find this history repeated in your own experience. In all such cases let me put you on your guard, in the first place, against overlooking one condition, and that is uræmia. As chronic vomiting is one of the milder signs of uræmia, you should never omit to make an examination of the urine. Here the urine has been repeatedly tested for albumen, and found to contain none, and we must therefore look for some other cause for the gastric trouble. It is possible that it may be purely functional, and it is well to remember that this sort of functional vomiting is not infrequently met with in young women. It is apt to be associated with hysteria, and in such cases it would seem at first sight that everything was vomited, since the food taken does not apparently stay down a moment; but on more careful investigation it will be found that some portion of it, at least, is retained. Invincible anorexia is usually found in connection with this condition. Now, is the present one of the kind just described? There is one thing opposed to such a hypothesis, and that is, that the patient has vomited blood.

A hemorrhage from the stomach is not apt to take place without there being present some serious pathological condition. It would here suggest gastric ulcer. Can-

cer we should exclude in this case, both on account of the age of the patient and the absence of the characteristic cachexia, as well as the physical signs of such trouble. If she could retain certain articles of diet, and especially those of a very bland nature, it would be strongly confirmatory of the diagnosis of ulcer; but, on the contrary, it is undiluted whisky that she can keep down better than anything else. As a general rule, all forms of stimulus are contra-indicated in ulcer of the stomach; and this is a point, therefore, against the existence of this pathological condition. Another point opposed to it is the absence of localized pain of a gnawing character, which is almost always connected with ulcer. There is, in fact, but one symptom that gives strong evidence in favor of this, and that is the hæmatemesis.

Since this is the case, let us next inquire if there are any other conditions which would be likely to give rise to gastric hemorrhage. In this connection may be mentioned cirrhosis of the liver; but there is no evidence whatever of such an affection here, and it would seem decidedly best, therefore, to refrain from committing ourselves to a positive opinion concerning the case at present.

In the mean time, what shall we do for the patient? As there is so much irritability of the stomach, she can hardly receive by it the nourishment which her system requires. The indication is, therefore, to allow the stomach perfect rest for a time, and sustain the patient by appropriate food introduced into the system in some other way. Of course the rectum naturally suggests itself as the avenue through which this is to be accomplished; but, unfortunately, in this case the lower bowel, contrary to the general rule, is quite intolerant of any such interference, and consequently rectal alimentation cannot here be successfully resorted to.

ATROPHIC PULMONARY EMPHYSEMA.

Our last patient is Mary B., a widow, 46 years of age, who was admitted just a month ago. Her family history is indefinite, and she herself always enjoyed good health up to one year ago, when she began to have a cough, with some pain in the chest. During the last six months the symptoms have grown more severe. She has begun to have expectoration with the cough, and the latter has become paroxysmal in character. These paroxysms last from five minutes to half an hour, and give rise to quite marked dyspnœa. The respiration is of an asthmatic nature. There are no symptoms referable to the stomach or intestines, and the urine, which has a specific gravity of 1012, contains no albumen.

On inspection, you will notice how prominently the sterno-cleido-mastoid muscles stand out. There is present the fixedness, but not the rotundity, of the chest ordinarily characteristic of pulmonary emphysema. We have, indeed, the signs and symptoms of that condition, with certain differences from the common form of it which go to show that this is the senile or atrophic variety. As a rule, in emphysema there is enlargement of the chest, which assumes the peculiar "barrel shape" indicative of the condition; but here the patient's chest is not only not at all enlarged, but is even somewhat diminished in capacity. In other words, it is a case of emphysema due to atrophy of the cell-walls in the lung, in consequence of which several vesicles become thrown into one. I would call particular attention to the physical signs present, and the sound of breathing here, because a case of this kind, unless examined with care, will be very likely to be mistaken for one of phthisis. The inspiratory sound is shorter than normal, and the expiratory somewhat prolonged; but the latter is always of a lower pitch than the former, as is the case in health. On making percussion over the chest we get unusually clear resonance on both sides, which is really vesiculo-tympanitic in character. In most cases this is more marked at the left apex in front than at the right, but here the reverse is true. The cough accompanying emphysema of either of the varieties I have mentioned is of a spasmodic character, and expectoration is performed with difficulty. If you will only bear in mind the physical points belonging to emphysema, you will never have any difficulty in distinguishing a case like this from one of phthisis.

The patient is taking iodide of potassium for the relief of the bronchitis present, which is here (and not the emphysema) the cause of the cough. The râles met with in this, I may say, are somewhat peculiar, being dry in character, and resembling the crepitant râle to some extent, although not quite so fine in sound as that. Laennec discovered a dry râle in emphy-

sema, which he considered diagnostic of that affection; but later observers have differed with him in regard to this point. The present case, as it appears to me, would seem to offer a certain amount of evidence confirmatory of Laennec's opinion.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF APOMORPHIÆ HYDROCHLORAS.

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Abstract from Inaugural Thesis, March, 1879.

(Continued from page 137.)

ON THE RESPIRATION.

THE effect of apomorphine upon the respiration-rate of mammals (rabbits and cats) is to cause an increase, which is very variable as to extent. In six dogs there occurred an average increase of fourteen respirations per minute; in one rabbit, an increase of sixty; and in one cat, an increase of thirty-six per minute. This increased respiration-rate is sometimes followed by a diminution to below the normal. In frogs I have never observed increased respiration as it occurred in mammals, but invariably a decrease.

Harnach (*loc. cit.*), who has made a special study of the action of toxic doses upon the respiration-rate, says that before convulsions it is enormously increased. This has not been the result in a single instance in any of my experiments. Seibert (*loc. cit.*) says that in dogs there is a continuous diminution of respiration-rate, even to half of the normal frequency. He further states that he cannot account for it.

The increased respiration-rate which occurs in mammals is independent of the act of vomiting, as is shown by the fact that the respirations are increased whether the vomiting be present or not; also by the fact that the increase is very marked in rabbits, which cannot vomit. The next point of investigation was to observe the effect on animals in which the vagi nerves were cut.

In two dogs and three cats thus operated upon, there was no increase of respiration-rate.

In rabbits it was found that the increase occurred even after section of the vagi nerves.

Harnach also observed increased respiration-rate in rabbits after the vagi nerves were cut. It seems rather peculiar that in dogs and cats, after section of the vagi, no increase of respiration-rate occurs, while in rabbits the increase is so very marked. The evident reason of this exceptional action on rabbits is given in the following conclusions: the increase of respiration-rate which occurs in normal dogs and cats must be due to a stimulation of the peripheral vagi nerves, since the increase does not occur after section of those nerves; on rabbits the action must be a stimulation of the centres, since the increase is as evident after section of the vagi nerves as previous to it.

If the drug is given in toxic doses, or if large doses are thrown in upon the respiratory centres, a failure of respiration results, which must be due to a paralysis of those centres. To cause this effect when the drug is thrown in upon the respiratory centres, the dose must be large and in concentrated solution.

ON THE TEMPERATURE.

Several investigators have made observations with this drug upon the temperature:

Zolkowski (*Apomorphin*, Inaug. Diss., Greifswald, 1872) found that large doses caused a fall of temperature of from .1° to .5° Cent.; Moerz (*Präger Vierteljahr.*, Bd. 115, p. 82, 1872) found in a man a rise equal to .2°; Bourgois (*loc. cit.*) asserts positively that no change is produced; Pierce (*Brit. Med. Jour.*, p. 204, i., 1872), in an observation on a boy aged eight years, found the "temperature-variation unimportant;" Seibert (*loc. cit.*), in his experiments, sometimes found an increase, sometimes a lowering, and sometimes no change whatever. In dogs he found a tendency to increase of temperature, especially after severe vomiting; but this was always followed, without exception, by a distinct lowering. He does not ascribe this effect to any peculiar action of the drug, but thinks the action like that of tartar emetic and ipecac.

The results of my own experiments, which were seven in number, show that when the drug is given subcutaneously there invariably occurs a rise of temperature, varying from .2° to .9° C., followed by the decrease, varying from .5° to 1.9° C. The increase never occurred in the four experiments in which the injections were intravenous, excepting in one in-

stance, in which there was a rise of .05° C. occurring immediately after the injection, and which in all probability was not due to any specific action of the drug itself. The failure of rise after intravenous injection is probably due to an excessive action of the drug thrown at once into the circulation; and it suggests that the probable action of the drug is primarily a stimulant and secondarily a depressant to centres which probably preside over the maintenance of the bodily temperature. When injected intravenously, the stimulating action is lost in the more powerful depressing effect, the greater portion of the drug reaching the centres, which, instead of slightly irritating, as would be the effect of a very small quantity, it at once depresses.

ON THE MUSCULAR SYSTEM.

The action of apomorphine upon the voluntary muscular system, whether locally applied or administered through the circulation, is that of a depressant. This fact is denied by Quehl (*loc. cit.*), who asserts that this drug has no such action. Harnach, however (*loc. cit.*), in his very careful experiments, arrived at a different result.

My observations, made with apomorphinized muscles on the myograph, show an unmistakable loss of functional power, followed by complete paralysis.

I have made further observations on frogs, by exposing the gastrocnemii muscles. The weakest galvanic current was then found that would cause contraction of those muscles. On one side the muscle was painted with a solution of apomorphine, while on the other side the muscle was left in a normal condition. The relative irritability of the two gastrocnemii was then compared by means of the galvanic current, and it was found that after the poisoned muscle would not respond to powerful stimuli the normal muscle still retained its normal contractility.

The action on the *involuntary muscles* is identical with that on the voluntary. Harnach (*loc. cit.*), in his experiments on frogs, found that if the dose was large enough, paralysis of the heart occurred, which is confirmed by my experiments (see "Blood-Pressure"). The fall of pressure is due to a depressant action of the alkaloid upon the heart-muscle. I have also found that the drug applied to the excised hearts of frogs at once arrests the pulsation.

Autopsies of animals dying from this poison show that the heart is either paralyzed or but slightly irritable and full of blood.

The effect upon the muscular coat of the *intestines* is the same as that upon the heart, though not so powerful. When the drug acts through the circulation, the effect is not so striking; but when applied locally, either pure or in strong solution (.05 gram. to 1 cc. water), the paralytic effect is marked.

ON THE GLANDULAR SYSTEM.

The action of apomorphine upon the *salivary glands* is one of the first symptoms after the administration of the drug in any method, and is usually manifest within from one to three minutes after injection. The increase of salivary secretion is in some cases extremely marked, the saliva running from the mouth in almost a constant stream. Seibert (*loc. cit.*) states that in his experiments the secretion of saliva was not more profuse than from the effects of other nauseants. I find a contrary result in very many of my observations.

In reference to the effect on the *secretion of the skin*, I am unable to give any positive facts. Seibert (*loc. cit.*), M. Chouppe (*Gazette Hebdomadaire*, December, 1874), and other investigators have observed perspiration, more or less in degree, occur in the human being.

Upon the *urinary and intestinal secretions* I have not been able to detect any decided action.

The *secretion of the stomach* is very markedly increased in some instances. After the contents of the stomach are evacuated, the vomit which follows is clear and watery, and occasionally very copious, varying, however, very considerably as to quantity. Occasionally the vomit is tinged with bile. I have never observed any noticeable action on the secretion of bile.

ON THE STOMACH.

The time required to produce emesis in dogs varies from two to nine minutes, the interval between the time of injection and the first act of vomiting having no relation to the size of the dose. The average duration of the interval in twenty experiments made in reference to this particular was five and a half minutes, the shortest interval being two minutes, the longest nine

minutes. Large doses do not cause a greater intensity of the emesis, but quite the contrary if the dose is very large. Doses of .06 gram. are no more effectual or prompt than those of .01 gram. or .005 gram., or even considerably smaller. Vomiting does not occur when the drug is injected intravenously, unless the dose is less than .005 gram. (twenty-five experiments made). When the drug is given by the mouth and stomach the effect is very prompt; the interval is slightly longer than when the drug is given subcutaneously.

The act of vomiting taking place whether the drug is given by the mouth or through the circulatory system shows that the effect is not due to a local action on the stomach. In order to prove this point fully, by further showing that the emesis was not the effect of an effort at elimination through the stomach, I made the following experiment, in which the thoracic aorta was ligated, thereby excluding the supply of blood to the stomach, showing, by the result of this experiment, that if vomiting did occur the action of the drug could not be that of an effort at elimination causing stimulation of the peripheral gastric nerves.

Exp. CXLIX.—8.30 A.M., ligated the thoracic aorta of a dog; 9.00, gave a subcutaneous injection of .01 gram. in the anterior portion of the body; 9.03, vomiting; 9.04, vomiting repeated. The dog was then killed, and a post-mortem examination made. The ligation was found to be perfect. A careful examination was made, to see if any anomalous branches of blood-vessels ran from a point above the ligature or from the diaphragm to the stomach, but none were found. The occlusion of blood from the stomach was, therefore, perfect. The vomited matter was carefully tested for apomorphine with chloride of gold, but none of the alkaloid was found to be present.

The conclusion that the action of apomorphine is upon the vomiting centres in the medulla oblongata is further verified by the fact that the larger doses (.06 gram.) are not nearly so efficient as the smaller ones (.005 gram.) in producing vomiting. It would seem as though in small doses the drug acts as a stimulant, but in large doses as a depressant, to the vomiting centres.

Quehl (*loc. cit.*) says that after section of the vagi nerves apomorphine is powerless to produce emesis, thereby asserting that its action is upon those nerves. Seibert (*loc. cit.*) asserts that vomiting does occur after section of these nerves. Now, even did Seibert not give this contradictory evidence, the experiments of Quehl would signify but little, since vomiting is a rare occurrence after section of the vagi nerves: therefore any conclusions founded upon negative results of such experiments are valueless.

ELIMINATION.

Apomorphine is probably eliminated by all of the secretions. I have found it in the urine, saliva, and matters vomited. Even after the administration of very small doses, .002 gram. ($\frac{1}{30}$ grain), distinct evidence was found in the urine of its presence. The best mode of detecting it is by means of a solution of chloride of gold, which gives a purple precipitate. It will be remembered that the salts of tin are the only substances heretofore discovered which would give a purple precipitate with this salt. The precipitates produced by apomorphine and the tin salts may be discriminated by the following means. If a solution containing the reaction of apomorphine be boiled, it will gradually grow darker in color, and finally a dark brown; the precipitate of the tin salts does not change color when it is boiled. This test is a very delicate one; a quantity as small as .0005 gram. in 15 cc. of water can be detected without any difficulty, if the suspected solution into which the chloride of gold is placed be allowed to stand for a few hours. The purple precipitate is quite marked after the lapse of twenty-four hours.

I have found distinct evidences of apomorphine in the matters vomited two minutes after a subcutaneous injection. I have found it in the urine after the lapse of five minutes; thus showing that the drug is very rapidly eliminated from the system.

ON THE PUPIL.

Nearly all observers have noticed, in their papers upon this subject, that apomorphine causes a dilatation of the pupil. Dilatation is the general rule, although in two of my experiments there was a marked contraction. Locally applied, the drug has no effect on the pupil.

In a number of experiments to determine the way in which this effect is produced, it seems certain that it must be due to an action upon the motor-oculi centres; for, were the action on the motor-oculi peripheries, dilatation should occur

from a local application of the drug to the conjunctiva. Again, after exposure of the motor-oculi nerve galvanization of the trunk causes contraction of the pupil, showing that the action must be centric. The drug may have some slight stimulant action on the sympathetic nerve, but it must be one of no importance, for even after section of this nerve in the neck dilatation still occurs. Paszkowski (*loc. cit.*) believes the dilatation of the pupil to be due to an action on the sympathetic nerve, because the dilatation is present whether the vomiting occurs or not. This is certainly an unjustifiable conclusion.

CONCLUSIONS.

The following is a summary of the most important of the conclusions scattered throughout my paper, and which have been derived from a study of the results of over two hundred experiments:

1st. That when locally applied it is a depressant to all the highly organized tissues of the body.

2d. That upon the cerebrum it is primarily a stimulant, secondarily a depressant.

3d. That the sensory nerves are paralyzed, the paralysis being progressive from the periphery to the centre.

4th. That the motor nerves are primarily stimulated, secondarily paralyzed.

5th. That the loss of voluntary motion is due to narcotism.

6th. That the loss of reflex activity is due to a paralysis of the sensory nerves and a stimulation of the inhibitory reflex centres of the spinal cord.

7th. That the convulsions are principally spinal, and due to a paralysis of the inhibitory reflex centres of the spinal cord.

8th. That the motor conducting tracts are paralyzed before the motor nerves succumb.

9th. That the hyperæsthetic condition which is sometimes observed to exist after the total abolition of reflex activity is due to a depression of the inhibitory reflex centres of the cord.

10th. That the increase of pulse-rate is due to a stimulation of the accelerator fibres of the vagus, and the decrease to a depression of the heart-muscle.

11th. That the increase of respiration-rate in dogs and cats is due to a stimulation of the peripheral vagi nerves, and in rabbits to a combined stimulation of the vagi centres.

12th. That the primary and secondary fall of blood-pressure is due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centres in the medulla.

13th. That the temperature is primarily increased, secondarily diminished.

14th. That both the voluntary and involuntary muscular systems are depressed and, finally, paralyzed.

15th. That it is a cardiac depressant.

16th. That the secretion of the salivary glands is markedly increased.

17th. That the emesis is due to a stimulation of the vomiting centres in the medulla oblongata, and that the drug acts primarily as a stimulant, secondarily as a depressant to these centres.

18th. That absorption takes place very rapidly through all parts of the body.

19th. That it is probably eliminated by all the secretions, and that the elimination takes place rapidly.

20th. That the most characteristic test is the solution of gold chloride, which gives a purple precipitate, which may be distinguished from the reaction with a tin salt by the precipitate changing to a brown when it is boiled.

21st. That the dilatation of the pupil is due to a paralysis of the motor-oculi centres.

22d. That there are no characteristic lesions found after death.

In nearly twenty autopsies I never found, in a single specimen, the slightest evidence of the hyperæmia of the pons varolii which Quehl states to be a characteristic lesion.

CASES OF POISONING,—ONE BY ATROPIA, ONE BY OPIUM, AND ONE BY QUININE.

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CASE OF POISONING BY ATROPIA.

MAY 31, 1879, 4 o'clock, P.M., a male infant, 19 months old, got hold of a bottle of atropia sulph. sol. (gr. i. to ʒss), and drank nearly the whole of its contents. Half an hour later it was seen by Dr. J. F. Winter, who gave sulphate of copper as emetic, producing free emesis twice, and followed it by eight drops of deod. tinct. of opium.

Condition when he saw the child,—entire surface bright scarlet, violent delirium, constant and violent spasmodic actions of the limbs, widely-dilated pupils, intense restlessness. I saw the case in consultation an hour

later, when the condition was the same as above, except that there was marked muscular rigidity, with drawing-in of the thumbs and great toes, especially on the right side. Mouth and throat absolutely dry and parched. Ordered—

Tinct. cinchonæ, f℥ij;
Acidi tannici, ʒi.

S.—Dessertspoonful every half-hour.

Half-hour later (two hours after poisoning).—Condition somewhat quieter; pulse 140; respiration regular, but *inspiration* spasmodic; still restless, though more inclined to sleep. Circle of $\frac{1}{12}$ of an inch of iris visible around pupil; slight contraction under strong light; skin not so red.

Second dose of cinchona and tannin given.

Six hours after poisoning.—Pulse 133, respiration 30; has slept four hours quietly; pupils less dilated; seems delirious, and sees visions. Tonic contractions and convulsive movements gone. Bowels moved by enema, and strong coffee administered. Still very drowsy, but can be made to notice and talk.

June 1, A.M., report of Dr. Winter.—"Little patient all right this morning; but was wide awake, delirious with hallucinations, all night. Gave two doses deod. tinct. of opium, gtt. v and gtt. iv respectively, during night."

The amount of sulphate of atropia taken was not less than ¼ of a grain.

CASE OF POISONING BY OPIUM.

A girl-baby, 19½ months old, was given, June 1, at 10 A.M., a teaspoonful of deod. tinct. of opium by mistake for a mixture she was taking for entero-colitis. Child had always been healthy, and was well and strong up to a week before, when entero-colitis developed until she was very ill May 31, and was taken six miles in the country on the morning of the 1st. The accident occurred in the country. Was discovered within five minutes. A tumblerful of mustard and water was given within fifteen minutes after ingestion: this produced but slight vomiting, and was followed by half a tumblerful of warm salt water. A doctor was sent for two miles away, who, when he arrived, administered tincture of ipecac

Slight vomiting followed, but free emesis was not produced,—the mustard and salt water not being entirely expelled. Mustard poultices, hot mustard bath, and constant motion were used to keep the child awake. She continued drowsy, but easily roused, and the doctor, thinking the danger past, left, giving instructions not to allow the child to fall into a deep sleep.

About two o'clock (four hours after the poison had been taken) coma with stertorous breathing suddenly developed, and she could not be roused.

She was brought in to the city, and to my office about four o'clock.

Her condition when I first saw her was as follows:

Pulse beyond counting, but distinct. Respiration stertorous,—20 per minute. Pupils contracted to a point. Capillary circulation sluggish. Lips pale, and face bluish. Entirely unconscious. Conjunctiva not sensitive.

Administered by stomach gr. x sulphate of zinc. By rectum f℥iv strong coffee, and f℥ij coffee by mouth. Hypodermic injection sulphate of atropia (gtt. iv of a sol. gr. i to f℥ss) $\frac{1}{10}$ of a grain, and, getting no effect in half an hour, administered six drops more, making in all $\frac{1}{14}$ of a grain of atropia. Applied strong faradic current through diaphragm and vagus nerve. This current, though stronger than I could myself bear, had no effect on sensation, although the character of the respiration improved, becoming deeper and less stertorous.

Then used the galvanic current from forty-eight (Constant Battery) cells, using bare copper electrode. This caused the first indication of sensibility, and also improved the pulse and respiration, but was very severe,—the negative pole blistering in about five seconds and making it necessary to move it about constantly.

Hot and cold douche, alternately, by pouring the water from a height of two feet on back of neck, was tried thoroughly, without effect.

In an hour after the administration of the atropia the pupils were dilated about one-half, the pulse was stronger and could be counted at 180. Respiration not stertorous, and increased in frequency.

Responds now to faradic current. Hypodermic injection of f℥ss whisky, which had a favorable effect on the pulse. In half an hour, pulse seeming to flag, repeated hypodermic of whisky. Called Dr. J. Ford Thompson in consultation.

When he came in, at 6.30 P.M., the baby seemed better; pulse distinct, 180; respiration 30; pupils slightly dilated; complete unconsciousness.

Introduced a flexible gum catheter into stomach and drew off about f℥iv fluid contents; then threw in water and washed stomach out, and injected three bulbfuls "Davidson's Syringe" of coffee and whisky.

However, pulse failed rapidly and refused again to respond to hypodermic of whisky; respiration more rapid, 36 per minute, and thoracic temperature 107°. Condition of surface, which had improved an hour before, became markedly cyanotic.

Evidently dying from venous cerebral congestion.

Died at 7.30, nine hours and a half after inception of the drug.

The amount of the deodorized tincture of opium taken was at least ¾ of a teaspoonful, the equivalent of 2½ or 3 grains of opium.

There was no autopsy.

This case differs from the usual course of opium-poisoning in that the respiration was increased in frequency instead of diminished.

There was no paralysis of the respiratory centre. The pulse at the wrist became imperceptible fifteen minutes before respiration ceased.

The ease with which the flexible catheter may be used to empty the stomach in such cases is worthy of notice. It seems preferable in every way to the cumbersome stomach-pump, and is always attainable. The stomach can be emptied of its contents quite as easily as the bladder, and an ordinary bulb-syringe is all that is necessary to wash out the viscus. I believe that to Professor J. F. Thompson, of this city, is due the credit of first applying the flexible catheter to this use.

AN UNUSUAL IDIOSYNCRASY IN REGARD TO QUININE.

Miss S., æt. 20 years. Healthy and well developed. Has always shown a great susceptibility to contagious diseases,—being the one out of a large family of children to always contract and bring into the family such diseases. Had scarlatina four years ago.

Had never taken quinine previous to the present occasion.

October 10, 1879.—The following recipe was ordered by the attending physician for supposed malarial trouble:

℞ Quiniæ sulphatis, ℈ij;
Pulv. capsici, gr. iij;
Mass. hydrarg., gr. x.

Thin caps. no. x. Sig., one every three hours.

Commenced taking the capsules on the evening of the 10th, and took eight at intervals of three hours.

On the evening of the 11th itching commenced in the palms of the hands, extending during the night to the whole body,—intensely severe, preventing sleep, and causing great distress.

October 12.—The entire cutaneous surface a bright scarlet, somewhat swollen, exquisitely tender to the touch, so that every motion was painful, as also was the pressure of the body upon the bed. Slight febrile disturbances, but no marked elevation of temperature.

October 14 I first saw the case. Color of the skin as above described, suggestive of a case of scarlatina, but even more intense in redness, and without any appearance of fine eruption. No inflammation about the fauces; no fever. Soreness to the touch has subsided.

Desquamation has commenced on the hands and forearms,—the epidermis peeling off in sheets. The palmar surface of one hand came off entire.

A pile of this epidermis had been kept on the side-table for my inspection. The surface off which it came still remained bright red.

Desquamation continued until the whole body had shed its scarf-skin, the exfoliation being completed on the 17th, just one week from the beginning of the attack.

The amount of sulphate of quinia taken was 32 grains.

In his recent work on "Materia Medica and Therapeutics," Dr. C. D. F. Phillips, speaking of the physiological action of quinine, uses the following language:

"There are other local poisonous actions of quinine, which are less constant, and which we can but little explain. One of the most singular of these is its powerful and disagreeable action on the skin of many patients. Most medical men have met with one or two individuals in whom any dose of quinine, but especially a large one, produced irritation of the skin followed by free desquamation. Cases have not unfrequently been seen in which the whole skin of a hand, or even a limb, has come off like a glove or a stocking."—(*Am. edit.*, p. 244.)

In the absence of any other explanation of the phenomena of the case above reported, it is fair to infer that it is one of these cases of quinine-poisoning referred to by Dr. Phillips.

TRANSLATIONS.

A HITHERTO UNDESCRIBED ENDEMIC DISEASE OF NEW-BORN CHILDREN.—F. Winckel (*Deutsche Med. Wochens.; Cbl. f. Med.*, 1879, p. 763) describes an endemic affection occurring under his observation at the Dresden Lying-in Institution. Twenty-three children were attacked, with a mortality of 83 per cent. The disease appeared from the first to the twelfth day, and usually ended fatally in thirty-two hours. The symptoms comprised exhaustion, cyanosis, and icterus, pale to dark-brown urine frequently only passed with difficulty. Hæmoglobinuria was present, the urine containing normal bladder epithelium, epithelium from the pelvis of the kidney, some granular cylinders with blood-corpuscles, micrococci and detritus, urate of ammonia, together with a small quantity of albumen. Abundant ochre stools. No fever, diminished temperature, increase of white corpuscles, and detritus of red blood-corpuscles, with small bodies having molecular motion. Abdomen soft, not sensitive. Liver somewhat prominent. Thoracic organs not essentially affected.

Convulsions occurred in the course of the affection, with severe irritation and trembling of the ocular muscles, strabismus convergens, and rotation of the bulbi.

Autopsy showed constant presence of arteritis and phlebitis, enlargement of spleen, hyperæmia of pancreas. The papillæ of the kidney showed hemorrhagic infarctions, the stomach was dilated, the intestine displayed somewhat numerous ecchymoses, Peyer's patches, and, particularly, the mesenteric glands were markedly swollen. Pleura and diaphragm contained somewhat numerous ecchymoses; bronchial and pharyngeal mucous membrane hyperæmic. Brain œdematous, ventricles all enlarged, marked hyperæmia, with here and there small, scattered extravasations. The disease could not be regarded as a result of birth, nor as puerperal infection, poisoning, poor nourishment, or want of care. The etiology appears to be unexplained. Winckel defines the affection as "cyanosis febrilis enterica perniciosa cum hæmoglobinuria."

Sclerotinic Acid the Active Constituent of Ergot.—Nitkin (*Cbl. f. Med.*, 1879, p. 764; from *Würzb. Phys. Med. Verhandl.*) has experimented with sclerotinic acid in both warm- and cold-blooded animals. He found sclerotinic acid in the urine of warm-blooded animals two hours after injection, while at the end of forty to forty-eight hours it had entirely disappeared. A personal subcutaneous injection of .03 centigr. to 1.0 grm. into the arm gave a sharp, biting sensation, with a feeling of warmth through the entire member; a pale patch, with red areola, appeared at the point of injection. Both disappeared after thirty-six hours. Sclerotinate of sodium acted in the same manner, only the smarting disappeared in five to eight minutes. The fatal dose for frogs was 0.12 centigr.; for small cats, 0.30 centigr.; for rabbits, 0.80 centigr. Of sclerotinate of sodium the fatal dose was somewhat larger. Fatal injections lowered the temperature of warm-blooded animals, which remained lowered until the end. The pupil became narrowed in the stage of paralysis, and continued so. Autopsy showed brain and spinal cord œdematous and empty of blood; lungs congested and emphysematous at the edges; intestine congested, especially in the mucous membrane; urinary and gall bladders very full. As the result of his numerous and carefully conducted experiments, Nitkin concludes that sclerotinic acid possesses all the physiological and therapeutic effects of ergot, and therefore must be regarded as the chief active ingredient of this drug. Sclerotinate of sodium acts in the same manner, but more feebly. The effect of both seems to be exerted upon the central nervous system. Blood-pressure was reduced only by large doses; the heart remained unaltered. Death was preceded by stoppage of respiration. The fatal dose for man is reckoned at 10 grammes. An advantage of sclerotinic acid over ergot is that if kept dry it does not alter by age. Nitkin thinks the sclerotinate of sodium the best form for administration.

A Case of Symmetrical Gangrene.—Dr. Petri (*Berliner Klin. Wochens.*, 1879, p. 509), who had enjoyed good health up to the time of this attack, was seized with dull headache, weariness, and nausea, after a day or two of other symptoms, which constantly grew worse. The next day his temperature rose to 103.1°–104° F., and the fever, with enlargement of the spleen, lasted for a week. At first he was constipated, but later suffered from diarrhœa. The treatment consisted of salicylic acid, quinine, and baths. On the morning of the thirteenth day he experienced a chill of an hour's duration. The temperature rose that evening to 105° F., and on the next morning he observed an eruption of numerous hemorrhagic maculæ, symmetrically distributed over the body, coin-sized over the forehead and ears but hand-sized over the breasts. There were none on the abdominal region. The outer and upper surface of the arms, more particularly the left, was dark-blue in color over a space several hand-breadths in area. The sensibility of the parts affected was at first markedly increased; at the end of twenty-four hours, however, it had been replaced by almost complete anæsthesia. The arms became swollen and stiff. The fever continued; gastric disturbance, constipation, profuse sweating ensued; otherwise no disturbance of the functions. No ecchymoses on the mucous membrane, nor hemorrhages from the nose, mouth, or anus.

During the following weeks, large blebs, sometimes clear, sometimes bloody, formed over the arms; the patient became extremely exhausted. At the end of six weeks, superficial gangrene attacked the arms over a double hand-breadth on each

UofM

side, and later, slight periostitis of the sternum followed. The patient had recovered by the end of six months. Dr. Petri regards his case as one of *erythema exudativum hæmorrhagicum*. He gives a picture of the parts affected.

BLACK TONGUE, OR NIGRITIA.—Dr. Hirtz (*Gaz. Méd. de Strasbourg; Jour. des Sci. Méd.*, 1879, p. 582) had occasion to examine a child of 6, whose tongue was absolutely black. No other morbid condition existed, excepting a slight gastric disturbance. Washes of every sort were used without effect, but the discoloration of the tongue lasted for six weeks. In another case the parents were sure the child had spilled ink upon its tongue, but the same persistence was observed until lotions of corrosive sublimate were used, which quickly removed the condition.

An examination of the literature of this curious affection shows that so far back as 1855 Mr. Bertrand had described it; but it was reserved for M. Gubler (*Dict. Encyclopédique*) to suggest and for M. Maurice Raynaud (*L'Union Méd*, July 1 and 3, 1869) to prove the existence of a parasite resembling that of ring-worm. Féréol, however, a little later, attempted to show that the parasitic growth was an epiphenomenon, and that the essential disease was a piliform epithelial hypertrophy. But more recent investigations by Lanceraux and Dessois (1878) appear to prove conclusively the presence of vegetable spores; and the treatment which has proved successful, namely, scraping and washing with lotions of corrosive sublimate (gr. i to ℥i), seems to point also to a vegetable parasitic origin of the affection.

PHYSIOLOGICAL EFFECTS OF THE CONSTITUENTS OF COFFEE.—According to the researches of Binz and Peretti published in 1875, caffein in small doses is without influence upon the temperature. Larger doses, although not sufficiently considerable to give rise to convulsions, increase the bodily temperature 6° Centig. Still larger doses, giving rise to salivation, muscular stiffness, etc., increase the temperature within from one to two hours 1–1.5° Centig. This increase of temperature is maintained during seven hours, after which a decrease takes place, sometimes below the normal. Artificial respiration prevents this rise of temperature. In the slow breathing induced by alcohol narcosis, caffein acts as an excitant, beginning to show its effects within fifty seconds of its administration. In alcoholized animals caffein increases the pulse-frequency, and arterial pressure even, when the vagi are cut. The effect of caffein has sometimes been said to be due to the potassium salts contained; but this Binz has proved untrue by giving similar amounts of the pure salts alone without effect.—*Cbl. f. Chir.*, 1879, No. 43.

ACETATE OF ALUMINIUM AS AN ANTISEPTIC IN SURGERY.—Dr. Maas, at the recent meeting of the surgical section of the Association of Naturalists, at Baden-Baden (*Cbl. f. Chir.*, No. 42, 1879), spoke of the various disadvantages of carbolic acid as an antiseptic dressing, particularly its poisonous properties and its difficult solubility. Loewig has recently made a solution of the acetate of aluminium which has a constant strength of 15 per cent. Ten parts of hydrate of aluminium are mixed with eight parts of dilute acetic acid, allowed to stand in a warm place for twenty-four hours, and then filtered. The filtrate is a 15 per cent. solution of the acetate of aluminium. Three per cent. of this is sufficient to destroy the bacteria in Buchholtz's solution. Maas has used a 2½ per cent. spray of this solution in antiseptic surgical operations with compresses wet with the same and covered with gum-paper, etc., as in the ordinary Lister's procedure. Wounds thus treated suppurated very little, ran an aseptic course, and required very few changes of dressing. The acetate of aluminium can only be used in solution. On evaporation it leaves nothing behind but hydrate of aluminium.

PRE-HEMIPLEGIC HEMICHOREA.—I. Grasset (*Cbl. f. Med.*, 1879, p. 607; from *Gaz. Hebdom.*) gives the case of a man, 59 years of age, in whom no sign of former hemiplegia could be observed, and who injured his left hand by a fall. There was considerable loss of blood. Some eight and a half hours later (the hemorrhage, which had ceased, again having set in), the patient was found unconscious and with his right arm paralyzed. During the whole day and evening continuous choreiform movements were observed in this arm, which the next day gave way to paralysis. The entire right side was anæsthetic. In addition, the head and both eyes were observed to be drawn to the left side. Death ensued. At the autopsy a hemorrhagic focus was found in the *noyau lenticulaire* and the internal capsule of the left side.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 3, 1880.

EDITORIAL.

MEDICAL RELIEF FOR THE POOR.

SO much of paper and ink has been used in denouncing the system of free medical relief rampant in most of the large cities of the English-speaking race, and so little of the same materials have been employed in the proposing of really practical means of relief, that we are extremely pleased to take note of the undertaking which has been set on foot by the conjoint efforts of the Philadelphia County Medical Society and the Philadelphia Society for Organizing Charitable Relief.

It is proposed to divide the city into certain medical territorial districts or parishes, each of which is to be the exclusive source of supply for a single dispensary, and to use the ward organizations for the purposes of visitation and investigation. The other main features of the scheme are sufficiently portrayed in the following extract from the published circular:

"1st. That at each out-service or dispensary the patients shall be treated on the first visit, subject to the usual discrimination of the medical staff in attendance.

"2d. That each medical staff shall provide cards giving its title, address, hours of service, and such of its regulations as it may deem necessary, and that the applicants, after the first treatment, shall be referred with a card to the office of the ward association within which the applicant resides. The Ward Superintendent, after investigation of the case, shall place the ward stamp on the card and note it as approved or disapproved, with such qualifications as the conditions of the card may require. These cards shall be presented on all subsequent visits at the service-rooms of the medical charities. Small diagrams of the wards, with the address of the ward office, will be furnished for each dispensary or out-service. When the patient is ignorant as to the ward in which he resides, or is without a residence, he shall be referred for direction to the relief-office of the ward within which the medical charity is situated.

"The question of investigation should be as to the ability to pay, and not upon the moral standing of the patient,—as a general rule,—unless the card specifies to the contrary in any particular.

"It is suggested that the conditions for medical relief differ from other forms of relief,—

"1st. In that physical suffering cannot be passed by.

"2d. In that the relief, not being exchangeable, is not liable to abuse.

"A scale will be determined as to the degree of income that should disqualify for medical relief, according to the number in family to be supported.

"The cards of the medical charities should have this scale noted, and also whichever of the following conditions they respectively may desire should be attached to the investigation:

"1st. Eligibility for gratuitous treatment with or without medicine.

"2d. Eligibility for gratuitous treatment without medicine.

"3d. Eligibility for treatment, conditioned with stipulated fees according to ability for each visit, and with or without medicine. Provided the fees should not be less than five nor more than twenty cents.

"The payment of a small fee would tend to preserve the self-respect of the applicant, and, at the same time, to aid in the support of the services, and would in a measure check an undue recourse to medical charities. The fees should be placed by the patients in a box provided for the service-rooms."

It should be noted that in this scheme the various hospital and private dispensaries are not included, but only the seven general dispensaries of the city. Of the important hospital dispensaries, that of the Episcopal Hospital is so situated that its continuance should, we think, be encouraged. Eventually it should be included in the schedule. In regard to the dispensary of the Pennsylvania Hospital, we always believed that it was uncalled for, and that its creation by the Board of Managers, some few years since, was an addition to the load already borne by the medical profession which had no excuse in necessity, the district covered by it already being fully provided for. If some of the force lost in denunciation of the general system of free medical relief had been spent in informing and reasoning with the managers of the Pennsylvania Hospital before they took action some years ago, possibly good might have been accomplished in the preventing of evil.

The dispensaries of the medical schools are not demanded or justified by the needs of charity, but by the necessities of medical teaching. We suppose very few physicians would advise the abolition of the Jefferson College and the University; and as these institutions could not exist without their clinical facilities, their dispensaries not only must be endured, but must be allowed free course.

We think, however, that the work of the joint committee, whose action is the basis of this editorial, never will be thoroughly done until all dispensaries except those upon their list shall have been abolished. Of course the originators of the scheme under discussion have no direct power in the matter. If, however, the Society for Organizing Charitable Relief continues to grow in success and in power as it has since its origin, the time may come when even the most aristocratic and stiff-necked of our various boards of hospital managers will bow to an enlightened public opinion concentrated upon them by a powerful and active organization in whose ranks are enrolled most of our best citizens.

We have been pleased by the reception of the published account of the proceedings at the dedication of the McDowell monument in Danville, Kentucky. The oration, which was pronounced by Professor Gross, was, of course, just what it ought to have been. Of it further to speak is scarcely appropriate; it cannot be abstracted, having been written only to be heard or read. We do desire, however, to express our great gratification in that to one American physician or surgeon it has been given to have a public and permanent recognition of his services to humanity. Of a city that lets its Benjamin Franklin lie neglected, with grave unkempt, in an old and untrodden cemetery, it is too much to expect any remembrance of its great medical men of the past. But it is well that in the Mississippi Valley — the future centre of the nation — there should be a granite shaft to bear witness that there is nobility in saving life, and that honor is no longer to be found solely amid the carnage of the battle-field.

The University of Edinburgh has presented the Cameron prize, established to encourage studies in therapeutics, to Mr. Paul Bert, for his discovery of the value of compressed protoxide of nitrogen as an anæsthetic of long duration.

LEADING ARTICLES.

THE REPORT OF THE HAVANA YELLOW-FEVER COMMISSION.

At the meeting of the National Board of Health, held in June last, Drs. G. M. Sternberg, S. E. Chaillé, and J. Guitéras, together with T. S. Hardee, C.E., were appointed a commission to make investigations regarding yellow fever at Havana, Matanzas, and other places in Cuba. The commission has recently submitted its preliminary report, which lies before us in the form of a supplement to the *National Board of Health Bulletin*. The memorandum of instructions states that in organizing the commission the National Board has more especially in view the following desiderata: *First.* To ascertain the actual sanitary condition of the principal ports in Cuba from which shipments are made to the United States, more especially the ports of Havana and Matanzas, to determine how these sanitary conditions can best be made satisfactory, and more especially as to what can and should be done to prevent the introduction of the cause of yellow fever into the shipping of these ports. *Second.* To increase existing knowledge as to the pathology of yellow fever, — that is, as to the changes and results which it produces in the human body. *Third.* To obtain as much information as possible with regard to the so-called endemicity of yellow fever in Cuba, and the conditions which may be supposed to determine such endemicity. This, of course, involves a careful examination of neighboring localities where the disease does not appear to have its cause permanently localized.

Dr. Chaillé and Colonel Hardee were appointed by the commission a committee to conduct that portion of the investigation indicated under headings "First" and "Third," while Drs. Sternberg and Guitéras were appointed to conduct that portion of the investigation coming under heading "Second," and under additional instructions following "Third," and relating chiefly to the nature and natural history of the yellow-fever poison.

The preliminary report drawn up by the chairman of the commission, Dr. Chaillé, and the secretary, Dr. Sternberg, is intended merely to record the most important facts obtained and the general results

of the investigation, leaving details and the discussion of unsettled problems to the individual reports of members to be submitted hereafter. The commission, assisted by numerous officials of the island, began its labors in the first week of July, and finished them by the end of September. With regard to the commerce between Cuba and the United States, it is concluded that suspension of intercourse during a few months would tend to force the Cuban trade into the remaining months of the year rather than seriously to diminish it. Present sanitary restrictions on this trade do not cause to the United States the great pecuniary loss which the people are incessantly taught is thereby inflicted. Yellow fever is endemic in the most important seaports of Cuba. Residents of the mountain parts and secluded districts suffer from this disease when visiting the towns, showing that the poison is not so permanently lodged in these localities as to acclimatize a population, and that the causation of the disease must be sought in other conditions than those common to these rural places and the towns habitually infected.

Under the head of "Causes of Endemicity," the commission unfolds some particulars of public administration in Cuba which are of general but rather painful interest. The report says, "So far is Cuba from efforts to control the propagation of yellow fever that much is done which is calculated to greatly favor this." In illustration is mentioned the condition of the chief military hospital at Havana, located on the edge of the harbor, in one of the notoriously most infected localities of the city. It contained many cases of yellow fever, some of which were originating therein daily. A large room on the ground-floor of this hospital contained new blankets and other hospital supplies of clothing in very large quantities, and to the value of eighty thousand dollars, these supplies being intended for *distribution* to the other military hospitals scattered over the island! In addition, Cuba is cursed with a deteriorated and filthy paper currency, much of it so dirty that it stinks, and so foul that it has been seen conveying semi-putrid fish-scales from one person to another. Finally, after October 4, 1879, although there had been during the week twenty deaths in Havana, with not less than eighty cases of yellow fever existing on that day, and in the harbor nine infected vessels, yet "clean bills of health" were issued by Cuban officials to vessels sailing from that harbor. The exceptional prevalence of yellow fever in Cuba, as well as its exportation thence to foreign countries, needs little further explanation. Having the poison and all the requisite climatic conditions for its propagation, ample means are provided to bring to it, as food, constant supplies of unacclimated people.

With reference to climate in connection with the prevalence of yellow fever, the commission state that science has thus far failed to prove the essential connection with yellow fever of any one meteorological factor except heat; and what duration and degree of this are requisite is very indefinitely known.

That section of the report which treats of the insanitary condition of the ports of Cuba and the causes thereof is of considerable interest. It shows that the water-supply is in part defective in quality and wholly insufficient in quantity, and that hygienic laws are so violated that many causes are in constant operation grossly to pollute the soil, the air, and the harbor. A number of practical suggestions as to the method of obviating these conditions are added by the commission, and in this the subject of the origin of yellow fever in ships and harbors is discussed.

With reference to the question, what can and should be done to prevent the introduction of the cause of yellow fever into the shipping of Havana, Matanzas, and other Cuban ports, the commission regard themselves as in a position to suggest palliative measures only; but these are entered into in a terse and practical fashion likely to prove useful.

The report of the commission upon the pathology of yellow fever indicates a careful and thorough examination of the various points upon which information was sought, and, although the results reached have been for the most part negative, several questions of interest are suggested. The microscopic examination of the blood, which alone was practised, no chemical investigations having been made, indicates the entire absence of any vegetable organisms which can be regarded as characteristic.

The most important observation made relates to certain granules in the white corpuscles, shown in many of the photo-

micrographs taken. On account of the manner in which these granules refract light, and for other reasons, they are believed by Dr. Sternberg to represent fatty degeneration of the leucocytes.

Experiments with a view to ascertaining the susceptibility of animals resulted negatively. No symptoms were produced in any of the numerous animals experimented upon which could fairly be attributed to the influence of the yellow-fever poison.

An examination of the air and dust of the yellow-fever hospital wards showed the constant presence of certain slender glistening acicular crystals,* which attracted much attention, and which appear of particular interest in connection with the ascertained constant alkalinity of the atmosphere, commented upon in an appendix to the report.

Notes are given of the gross and microscopic appearances observed in the various organs and tissues of the body, obtained as the result of twenty-two autopsies performed by Dr. Guitéras.

In conclusion, we recommend the report of the commission to the careful perusal of all who are interested in the study of yellow fever, as a careful and scientific investigation of the subject, well worthy of the reputation of its members and of the National Board of Health.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 13, 1879.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Epithelioma of the lower lip. Presented by Dr. MORRIS LONGSTRETH.

DENNIS F. G., æt. 49, was admitted to the Pennsylvania Hospital, October 22, 1879, under the care of Dr. Thomas G. Morton. I am indebted to Dr. Baum, the resident physician, for the following history of the case. The man's history is good, as regards the occurrence of any malignant or hereditary disease in other members of the family. At the age of 10 he suffered from disease of the knee- and hip-joints; abscesses formed, and several large pieces of necrosed bone were removed from the femur, etc. Twenty years ago the man contracted a chancre, and since then has had a large ulcer on the right leg. Nine years ago, while working in the sun, his lips, etc., were sunburned and parched, and subsequently the lower lip fissured in the middle line. The fissure became an open sore, or ulcer, and about four or five years ago an outgrowth commenced in the middle of the lower lip.

On admission, the growth was found to involve the entire lower lip, except the extreme margins at each angle; it measured two and one-half inches in length and about one and one-half inch in thickness. The surface of the growth was uneven and nodular, and covered with fungous granulation peculiarly exuberant in character. On the outer surface of the lip, near its inferior portion, there were numerous rounded, slightly prominent nodules, but not ulcerated on their surface. The hairs on this portion of the lip were strikingly rank in their growth, and were loose in their attachments, and easily plucked out from the skin. The lip, although very much everted, so as to allow the dribbling of saliva from the mouth, was found at the time of the operation firmly attached to the lower jaw.

The growth was removed by incisions carried vertically through the lip near its angles, and by a horizontal incision joining the two vertical cuts. The condition of the alveolar process of the bone—the incisor teeth being lost, and some granulation springing up from their sockets—suggested the possibility of the bone being involved in the growth, and it was deemed best to remove this portion of the jaw; the operation was done with Bonwill's engine, armed with a circular saw, and operated by Dr. Bonwill himself. The wound of operation was closed by a principal suture placed at the middle of each of the vertical incisions; the borders of the newly-formed lip were brought together by a series of sutures, bringing the mucous membrane in apposition with the skin, and thus covering in the raw surface. The removal of the bone allowed of a better closure of the wound. A small abscess subsequently formed under the chin, and was opened.

The microscopic examination, made from sections cut with the freezing microtome, showed the growth to be an epithelioma. As the physical characters of the growth indicated, the microscopic appearances presented by the specimens showed a marked hypertrophic enlargement of the papillary layer on the surface of the growth; in parts so marked was this development that the appearance presented closely resembled a simple papilloma. The tumor itself showed but very few "pearly" formations; the epithelial cylinders were very numerous in parts, and growing luxuriantly. The corpuscular elements were very abundant in the connective tissue surrounding the epithelial formations. The vascularity of the parts was greatly increased. The muscular fibres of the lip showed very marked atrophy, and in some parts had nearly disappeared.

* These crystals, which have been shown to the writer, are soluble in water, and look as though they were ammoniacal. —ED. P. M. T.

The bony tissue and its attachments were not involved in the growth.

Giant-celled sarcoma of the upper extremity of the humerus. Presented by Dr. SAMUEL W. GROSS.

Mrs. J., æt. 23 years, fell on the ice on the 2d of January, 1879, but without any immediate ill effects. In July, or six months subsequently, she observed that the upper portion of the left arm was swollen, and that it soon became the seat of a dull, heavy pain, especially on motion, which has continued ever since.

On the 8th of November, when Professor Gross disarticulated at the shoulder by cutaneous flaps, the upper third of the humerus was converted into a smooth ovoid tumor, which measured one and one-quarter inch more in circumference than the opposite limb. Its consistence was elastic; its temperature was elevated one degree, but the skin, veins, and lymphatic glands were normal. The humerus was fractured, but the patient was not aware of that fact before she came under observation. After the overlying soft parts had been cleared away, the tumor, which was as large as a goose's egg, was found to be surrounded by a perfect periosteal capsule, which was continuous above with the thinned articular cartilage of the head of the humerus, and below with the periosteum of the shaft, the latter of which terminated abruptly in the midst of the neoplasm. Its tissue was of a uniformly grayish tint, friable, and had a fibrous tear.

Under the microscope the growth was found to be a typical giant-celled sarcoma, the very numerous multi-nucleated elements being contained in a spindle-celled matrix.

Spindle-celled sarcoma over olecranon process. Presented by Dr. SAMUEL W. GROSS.

A widow, æt. 61, came under my care at the hospital of the Jefferson Medical College, on the 20th of last August, on account of a tumor over the posterior face of the right elbow, which she stated was first observed two years previously as a moderately-soft, painless nodule. Its further growth was slow, until June, 1879, or two months before she came to the clinic, when it began to increase rapidly, and be the seat of a gnawing pain, which frequently interfered with her rest. On the 6th of August it began to ulcerate at its summit, and the suffering was aggravated; a week subsequently it bled rather freely. The wax model, made at the time, shows a conoidal tumor surmounting the olecranon process and the triceps tendon. The skin was of a bluish-red tint, pervaded by enlarged capillaries, and attenuated. At its base the neoplasm measured eleven inches in circumference, while it was three inches high, and its apex was ulcerated to the extent of an inch in diameter. In outline it was lobulated; its consistence was soft and elastic, and apparently fluctuating over the larger bones; and its temperature was three degrees higher than that of the opposite arm. The veins in the immediate vicinity of the growth were more prominent than natural, but there was no lymphatic involvement.

The wet specimen shows that the tumor underwent marked changes during the three weeks and a half which elapsed between the date that the patient first came under my care and amputation. Thus, its circumference had increased two inches and its height three inches, while the ulcer measured three inches and one-half in diameter. The bones were more prominent, and the largest one fluctuated distinctly and was evidently approaching ulceration.

Amputation of the arm was practised at the junction of its middle with its lower third, on the 20th of September, and the patient was discharged at the expiration of five weeks.

Section of the tumor and the underlying structures, which was attended with the escape of straw-colored fluid, disclosed that it was composed for the most part of a succulent, striated, yellowish-white tissue, with here and there gelatinous areas and a few small cysts. The older portion, or that which lay nearest to the olecranon process, was deeply blood-stained. The triceps tendon was infiltrated by the morbid deposit. The ulna was not involved, the tumor, which developed in the subcutaneous connective tissue, being merely attached to its investing periosteum.

On microscopical examination the growth was found to be a hemorrhagic large spindle-celled sarcoma, with an occasional giant element.

Medullary carcinoma of the bladder. Presented by Dr. JOSEPH HEARN.

Francis B., æt. 59, married, a blacksmith, was treated at the surgical out-patient department of the Jefferson Medical College Hospital during the past summer for vesical trouble, under which he had labored for twelve years. The earliest symptoms were frequent micturition and slight pain at the completion of the act: they gradually grew worse, until three years ago, when he passed blood for the first time. Of late the discharge of blood was increased by unusual exercise, the use of malt or spirituous liquors, and by sexual indulgence; at times it was quite profuse, and most marked after the expulsion of the urine. Two months before the fatal issue he was compelled to take to his bed from the loss of strength and flesh, and on account of constant pain, which was at times intense, referred to the pelvic region and to the glans penis, the latter of which he was constantly pulling at and squeezing, even when he was unconscious. On the introduction of a sound the surface of the bladder was felt to be roughened and uneven. The employment of the instrument was productive of great pain, and occasioned a copious hemorrhage. Unless under the influence of the anodynes, he passed a few drops of urine every thirty

minutes during the day and night. He was partly unconscious for two weeks before death, and for one week suffered from incontinence of urine.

At the post-mortem examination, made September 11, 1879, twenty-four hours after death, on incising the linea alba, a rather firm, grayish-white nodule, as large as a hazelnut and seated in the parietal peritoneum, was cut through about midway between the umbilicus and pubes. With the hand the peritoneum was found to be the seat of other secondary growths, but in deference to the wishes of the family the incisions were restricted to making an opening sufficiently large to remove the bladder. The capacity of the viscus was not diminished. The base was thickened to the extent of nearly one inch by a soft encephaloid mass, which protruded several small nodules into the space between the seminal vesicles. On opening the bladder and emptying it of its muco-purulent urine, the entire mucous membrane was seen to be corrugated and inflamed. The *bas-fond* and the greater portion of the organ were converted into irregular fungous and ulcerated masses, which infiltrated all of its coats except the peritoneal. On section they were of a pinkish-white tint, soft, and very friable. The prostate was only slightly enlarged, and was not invaded by the disease. Microscopical examination by Dr. S. W. Gross showed that the primary growth of the bladder and the secondary nodule of the peritoneum were composed of large polymorphous epithelial cells, the majority of which had undergone fatty changes, contained in alveolar spaces formed either by muscular fibres or by fibrous tissue.

Dr. S. W. GROSS remarked that primary carcinoma of the bladder is to be ranked among the rarest of affections, although it is not very uncommon as the result of the extension of a similar growth from the contiguous and associated organs. The case narrated by Dr. Hearn is of interest on account of the long duration of the disease, death usually ensuing in less than twelve months. Examples of the prolongation of life for eight or nine years have, however, been recorded by Sir Henry Thompson and W. M. Clarke. They were all villous medullary carcinomas, and hemorrhage was a prominent symptom from the first.

REVIEWS AND BOOK NOTICES.

PARACENTESIS OF THE PERICARDIUM: A CONSIDERATION OF THE SURGICAL TREATMENT OF PERICARDIAL EFFUSIONS. By JOHN B. ROBERTS, A.M., M.D., Fellow of the Philadelphia Academy of Surgery, etc., etc. With Illustrations. Philadelphia, J. B. Lippincott & Co., 1879. 8vo, pp. 100.

Dr. Roberts has done himself great credit and the profession a real good in writing this monograph. It is a clear, able, and earnest statement of the claims of an operation which has not heretofore received from medical men at large the consideration it deserves. After a search systematically carried on during a period extending back several years, Dr. Roberts has succeeded in collecting from American and foreign medical literature only sixty cases. These he has tabulated with reference to the name of the operator, the date, the sex and age of the patient, the mode and site of the operation, the result and other points of interest, including the source from which each case was derived. Some of them are what may be called stock cases, and have been made the subject of frequent reference in the past. Most of them are, however, of recent date,—since 1869,—and a few are new,—notably that of Herbert Norris (1869), which was published for the first in Agnew's Surgery, and that of Comegys Paul, the account of which *in extenso* did not appear until more than a month after the publication of Dr. Roberts's book.*

Anticipating by a week or so the date of the appearance of this book here, there was published in Leipsic a number of the *Deutsches Archiv für Klinische Medicin* (23d October, 1879) containing a paper by Dr. Hindenlang, entitled "A Case of Paracentesis Pericardii, from the Medical Clinic at Friburg." The patient whose history forms the text of this paper was twice operated upon by Prof. Bäumler, but ultimately died. A case of Prof. Kussmaul's, not previously published, is also given. In addition to these two cases, Dr. Hindenlang has collected fifty cases in which paracentesis pericardii was attempted or performed. To this list he adds twenty-three cases of scorbutic pericarditis operated upon, thus making a list of seventy-three cases exclusive of the two which are narrated for the first time in his paper. From this number are to be deducted, however, eight cases in which the operation was not concluded or the result was unknown or doubtful. Of the sixty-five remaining cases, twenty-one, or 32.3 per cent., made a more or less complete recovery. This is less favorable than the ratio in Dr. Roberts's collection of sixty cases, in which twenty-four, or 40 per cent., recovered. It is to be observed, however, that of thirty-five authentic cases that have been reported since 1860, only ten, or 28.5+ per cent., recovered, as is shown by Roberts. The almost simultaneous issue of these two works in the same field, by men engaged in the independent study of the subject in distant parts of the world, is one of those coincidences by no means rare in medical literature. As might be anticipated, a careful scrutiny of the two lists shows that a majority of the cases are common to both, whilst each observer has found a few that the other has missed.

* See Philadelphia Medical Times, December 6, 1879.

Dr. Roberts has reached the consideration of the operation by a succinct discussion of the causes of pericardial effusion, the nature and quantity of the fluid, its symptoms and the physical signs of its presence, the diagnosis, prognosis, and general management of the condition.

The anatomy of the parts concerned, the method of operating, the point of puncture, the dangers of the operation, and the objections that have been urged against it, are all considered with great knowledge and in a style characterized chiefly by directness and lucidity. The fifth interspace in the position normally occupied by the apex is regarded by the author as the point of election; the fossa between the ensiform cartilage and the costal cartilages of the left side is his next choice. And these two, he thinks, are the only points against which strong objections may not be urged. The wood-cut illustrating this part of the subject is not satisfactory.

No medical man who is at the same time a student and a practitioner can afford to pass this little book unread, seeing that it contains the gist of an important subject, not yet written into shreds, presented in an agreeable and concise form. To the students who are not yet practitioners, and the practitioners who are no longer students, we may say that there is much in it that will repay a little leisure given to its careful perusal. J. C. W.

CLINICAL LECTURES ON DISEASES OF WOMEN. By LOMBE ATTHILL, M.D. Univ. Dubl. Fifth Edition. Philadelphia, Lindsay & Blakiston, 1879.

Books on diseases peculiar to women exist in goodly proportion, and some of the more pretentious works would seem to contain all that science has hitherto advanced, if not all that the inquiring mind could wish, in this department. Contrasted with an ample and scientific treatise, as the last edition of Barnes, for example, the little work under consideration, of something more than three hundred small pages in large type, appears insignificant, and in danger of being consigned to an oblivion which its merits would by no means justify.

It is a concise and thorough condensation of years of clinical experience of a man of undoubted original ability and unquestionable research. From beginning to end it is fresh, lucid, and graphic, bringing the reader thoroughly *en rapport* with the author, as he carries him in imagination from case to case, clearing as he goes many doubts and questions which have been vexing and embarrassing in practice. There is no space wasted; the author deals with facts, and with practical minutiæ of treatment, to the entire exclusion of mere speculation or hypothetical practice.

The opening pages, upon uterine examination and manipulation, might be profitably read by Grailly Hewitt himself, while the chapter devoted to polypi and their treatment is calculated not only to add to technical knowledge, but to enhance materially the skill, and, not less important, the patience of the operator in dealing with this troublesome class of diseases.

The space devoted to retroflexion of the womb is proportionally too small for the importance of the subject. The question of cervical inflammation is not treated in a manner quite abreast of the times, any allusion to one very important lesion, laceration of the cervix, being conspicuous by its absence.

The indiscriminate use of caustics in endometritis, inculcated in the chapter upon that subject, though quite in accord with the prevalent practice, is open to adverse criticism.

These and other objectionable features, however, do not obscure the general value of the book, which for compactness, scope, and reliability has no superior in its department. J. B.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. BY M. ROSENTHAL. Vol. II. Translated by L. PUTZEL, M.D. New York, William Wood & Co., 1879. 8vo, pp. 284.

This volume sustains the reputation of the first half of the treatise. It is a good book, well translated. The classification adopted is useful and practical, and better than that found in most text-books on the same subject. That the author has had a large clinical experience is shown throughout the work. The treatise, in this volume as in the other, is remarkable for the amount of valuable information presented in a small compass; and in this respect it is a striking contrast to the bulky volumes on diseases of the nervous system in some of the recent cyclopædias and systems of medicine, which contain an abundance of facts, but these are far from being compactly presented.

The chapters on Hysteria and Epilepsy are interesting and satisfactory, particularly those portions which relate to pathology and treatment. The effort to establish an organic basis for hysteria is worthy of all commendation. Class X., which contains one chapter on *Vaso-Motor and Trophic Neuroses*, is also deserving of special mention. It includes brief, but, on the whole, satisfactory, discussions of migraine, unilateral atrophy of the face, Basedow's disease, traumatic and rheumatic nervous disorders of the sympathetic system, vaso-motor angina pectoris, neurosis of the abdominal sympathetic, Addison's disease, muscular pseudo-hypertrophy, trophic affections of the skin, and trophic affections of the bones and joints. Rosenthal brings forward prominently Goltz's experimental investigations upon the vaso-dilator nerves. He looks upon Basedow's disease as a neurosis due to an *irritation* of the vaso-motor apparatus, rather than to par-

alysis of the sympathetic. We have here and there in the volume a doubtful statement or an exploded theory, but the shortcomings of the work are not vital, and it will certainly be a useful addition to the library of every practitioner. C. K. M.

BIOGRAPHICAL DICTIONARY OF CONTEMPORARY AMERICAN PHYSICIANS AND SURGEONS. Edited by WM. B. ATKINSON. Second Edition, enlarged and revised.

This book has been so pertinently and impertinently reviewed, discussed, and belabored, that we content ourselves with the mere announcement of the second edition, published at a reduced price, and with the expression of our sincere condolence with those physicians who paid so heavily for immortality on steel, but whose hopes are blasted by the omission of their portraits from this new edition.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.D. London, Macmillan & Co., 1879.

This new edition of "Prælector Foster's Physiology" is in every respect worthy of the previous one. An elaborate review at present is not required: it is only necessary to say that it is the best book of its immediate scope in any of the three languages, so far, at least, as our knowledge goes; also to announce that the price has been reduced to $3.50 (cloth), and that, according to the circular letter accompanying the book, a still cheaper students' edition "will be ready in a few days."

A TREATISE ON THE THEORY AND PRACTICE OF MEDICINE. By J. S. BRISTOWE, M.D. Edited by JAS. H. HUTCHINSON, M.D. Second American Edition. Philadelphia, H. C. Lea, 1879.

A new edition of this well-known work, which has had the advantage of careful revision not only by its author, but also by Dr. Hutchinson, than whom there is no one in this country better fitted for the task.

A MINISTRY OF HEALTH, AND OTHER ADDRESSES. By B. W. RICHARDSON. D. Appleton & Co., New York.

This is a series of very well written essays upon sanitary and other medico-popular subjects. We have read all of it with much interest, and can commend the book to the attention of the profession. The essay on the world of physic is just what a medical man would do well to lend for perusal to his favorite patients of the better class.

WE have also received from Lindsay & Blakiston a copy of the fourth edition of "Holden's Manual of Human Dissection," a work which, under the joint care of Messrs. Luther Holden and John Langton, holds with an unopenable grip the first rank among books of its class in the language.

GLEANINGS FROM EXCHANGES.

INHALATIONS—THE ANTISEPTIC TREATMENT OF PHTHISIS.—Dr. Curschmann, of Hamburg, is a strong advocate of the respiration of antiseptics in phthisis. His respirator is figured in the *Berliner Klinische Wochenschrift*, No. 29, page 430. It is made of vulcanite, and has a rim of soft india-rubber, where it touches the face, to insure close contact and prevent air entering the lungs except through the respirator itself. Dr. Curschmann generally covers both nose and mouth, so that all the air which the patient breathes is saturated with the vapor in the inhaler.

The substances used for inhalation, and which are poured on a sponge in the front of the cavity of the respirator, are all well-known drugs,—pure oil of turpentine, carbolic acid, and thymol, either pure or diluted with from one to three parts alcohol, and creasote. Dr. Curschmann's application of them differs, however, from what most practitioners are accustomed to, in his using them either pure or, if diluted, but very slightly diluted; and yet most careful examinations of the urine after the prolonged inhalation of oil of turpentine never revealed the least renal irritation; nor did the patients complain of any unpleasant symptoms, except occasionally a little oppression of the head, and headache. The same is true of the use of undiluted carbolic acid previously liquefied by a gentle heat. If care be taken to wipe the edge of the inhaler frequently where it touches the face, and to anoint the face itself with simple ointment, there is no local soreness; and Dr. Curschmann has never seen any irritating effect produced either on the inside of the mouth or on the larynx by the administration of the vapor of carbolic acid in so concentrated a form; nor has any instance of so-called carbolic "intoxication" occurred in his practice. This statement refers to adults, as he has had scarcely any experience with children. He explains the harmlessness of the pure acid when inspired, first by the small amount of it which evaporates and reaches the lungs at all, and, secondly, by the fact that a large part is, very soon after reaching the dilated bronchi or cavities, expectorated with their secretion, and that the false membrane lining these cavities probably offers considerable resistance to its absorption into the system. Both carbolic acid and thymol evaporate much more freely in alcoholic solution than when pure; and Dr. Curschmann has almost invariably used thymol in this form alone. Alcoholic solutions of carbolic acid are more apt to cause paroxysms of cough than the undiluted acid. More patients, however, object to the use of thymol than of carbolic acid; but the former is, no doubt, safer for children's use than the latter.

Creasote never requires dilution (and on this point we are able to confirm Dr. Curschmann's

experience), but it is very important to see that the druggist supplies a pure article. Curschmann prefers creasote in cases where there is a tendency to hæmoptysis: he finds that it not only has a styptic action and disinfecting properties as powerful as those of carbolic acid, but that its vapor is sedative and allays rather than excites cough. Incidentally he mentions that he has seen benefit result from creasote inhalations in the hæmoptysis of phthisis.

Dr. Curschmann relates the history of two cases of phthisis with abundant and fetid expectoration. One was treated by inhalations of pure carbolic acid, the other first by oil of turpentine and later by carbolic acid. The inhalations were at first kept up for two or three hours at a time, later continuously. Both patients were relieved of their cough, and during the six months they were under observation gained twenty pounds in weight.—*Med. Times and Gaz.*, November 15, 1879.

INTESTINAL OBSTRUCTION SUCCESSFULLY TREATED BY PUNCTURE OF THE SMALL INTESTINE.—Dr. W. H. Broadbent (*Brit. Med. Jour.*, ii., 1879, p. 490) describes a case in which puncture of the intestine was successfully employed for the relief of obstruction. In connection with his report of the case, Dr. Broadbent notes the precautions which in his experience have always prevented injurious results from this operation. These are as follows:

1. To secure, if possible, absolute freedom from peristaltic action of the bowel. This is done by giving an extra dose of opium by the mouth, or a considerable hypodermic injection of morphia, or both, three or four hours beforehand. No food of any kind should have been taken for some time.

2. To select, if possible, a coil of intestine which shall contain only gas, and not liquid. This will be in the jejunum, and is to be found above the umbilicus rather than below it. An indispensable condition is, that scarcely any food shall have been taken during the entire attack.

3. To pierce the coil exactly at its most convex part. The abdomen should be carefully watched for some time at every visit, and especially before the operation. In some cases where the walls are thin the outlines of various coils may be traced even in repose; but this will be more distinct when peristalsis is provoked by pressure, friction, or manipulation of one kind or another; it will be seen also which coils shift and which keep the same position when contracting. The spot chosen for the puncture should be as near as possible over the centre of a coil which does not roll about, and by preference in the linea alba. If the needle happen to hit the line of contact between two coils, it may tear both.

4. To exercise great care and patience during the escape of the gas. The needle should be held lightly, but rather firmly, perpendicular to the abdominal wall, and should not be allowed to follow too rapidly any movement of the intestine. Under the circumstances of obstruction, the respiratory movements are not great. As the gas escapes from the coil selected for puncture, it will collapse under pressure from neighboring coils, and the flow through the needle will cease; very soon, however, the air in the intestine will distribute itself, and enter the empty portion, when again it will escape. This may be aided by general manipulation and pressure; but they should not be hastily resorted to: nothing is gained by hurry. Should the tube get blocked, aspiration may free it; but it is safer to drive a little air through the tube into the bowel than to exert powerful suction, which may draw the mucous membrane against the sharp needle. It is better not to put on a bandage after the operation.

Puncture of the intestine can relieve obstruction only very rarely and under exceptional circumstances. When it is due to misplacement of the intestine depending on pressure or dragging by a tumor, removal of distention may permit the parts to return to their normal position; but it could have no effect on a stricture or intussusception. Dr. Broadbent's experience would lead him to recommend puncture as a palliative; and, though he has no experience to guide him, he thinks it might be a useful preliminary to inflation, manipulation, suspension head downwards, or other procedures in intussusception, twisting or imprisonment of the bowel by adhesions.

THE TRANSFERENCE OF SENSIBILITY IN METALLOSCOPY.—Dr. Th. Rumpf, of Dusseldorf, in a lecture delivered before the Association of South-West German Neurologists (*Berliner Klin. Wochenschrift*, No. 36, 1879), describes some experiments which to a certain extent explain the metalloscopic "transfer" as a normal phenomenon in healthy subjects. He observed the effect produced by friction of the skin of one limb with spirits of mustard, and by the application of metal plates artificially cooled, artificially warmed, and of the same temperature as the surrounding air, and the sensibility was tested on both sides of the body by the old method of observing the distance apart at which the points of a pair of compasses are perceived as two points. He found that in healthy persons the sensibility of corresponding parts of the two sides of the body undergoes considerable variations, and that irritants to both sides can simultaneously increase or diminish it. This observation weakens the theory that diminished sensibility on one side *must* be compensated for by hyperæsthesia on the other, and *vice versa*. Secondly, Dr. Rumpf made out that a unilateral alteration of sensibility by irritants produces an opposite effect on the corresponding part of the other side, and that the normal sensibility of the two sides becomes gradually restored by a series of alternate positive and

negative fluctuations (*Schwankungen*) of sensibility in the two corresponding regions. When metal plates are used, there are two effects which must be discriminated,—that of the initial difference of temperature of the plate and the skin, and a very feeble one which manifests itself after an interval, and which depends on an increase of sensibility on the side to which the plate was applied, and its diminution on the opposite side. The period during which the different fluctuations above mentioned last is materially dependent on the duration of the primary irritation, being, roughly speaking, directly proportional to the latter. Dr. Rumpf thinks two hypotheses of the "transfer" deserve attention: either we may refer it to reflex dilatation of the blood-vessels of the part itself (Westphal), or to changes in the calibre of the vessels of the central sensory organs which innervate the part in question. He thinks the second hypothesis may perhaps explain the fact that gentle prolonged irritation of the skin so readily causes sleep.—*Med. Times and Gaz.*, November 15, 1879.

Effects of Local Irritation on Pain.—At the meeting of the Académie de Médecine, November 4, 1879 (*Bulletin*, No. 44), Dr. Dumontpallier read a memoir on "Local Therapeutical Analgesia induced by the Irritation of the Similar Region on the Opposite Side of the Body."

The following are the conclusions arrived at: "1. Every subcutaneous medicinal injection is a complex operation, in which a part must be assigned to the medicinal substance, and a part to the irritation produced. 2. The local irritation is transmitted from the periphery to the sensitive centres, and there determines a modification, the consequence of which is a diminution or cessation of the peripheric pain. 3. The real anatomical seat of certain peripheric pains should then be in the sensitive centres,—an assertion which seems demonstrated by the crossed action of induced peripheric irritation. 4. Irritation induced *loco dolenti*, or in the vicinity of the painful point, assuages or causes the cessation of pain; and when the irritation is induced at symmetrical points on the opposite side of the body, it proves often sufficient to cause a complete and durable cessation of pain."—*Med. Times and Gaz.*, November 15, 1879.

Menthol: an Anti-Neuralgic.—Mr. A. D. Macdonald, writing in the *Edinburgh Medical Journal*, September, 1879, extols the virtues of this substance, which is a volatile solid obtained from Chinese or American oil of peppermint, as a remedy in the various forms of neuralgia. The solution he uses is the following: Menthol gr. i; spt. vin. rect. ℥ l; ol. caryoph. ℥ x: mix. To be shaken, and painted over the affected tract. Pain is in this way relieved in from two to four minutes, and within a minute or two more the attack ceases. In toothache the author has cleaned out the cavity of the tooth with a little cotton wool, and then placed a single crystal on another small piece of wool and inserted it, with the result that the pain instantly disappeared. A tincture of strength 1-50 is equally effective. Mr. Macdonald recommends menthol as a suitable external application in sciatica, intercostal neuralgia, and brachialgia.

Chaps of the Nipple.—Dr. Hausmann recommends a solution of five grammes of carbolic acid and one hundred grammes of distilled water. The nipple must be thoroughly cleansed before being presented to the infant. This application is less painful than nitrate of silver, and rapidly heals the fissures. Dr. Steiner has also tried thymol solution, of one part to one thousand, but he has not found it so useful as the carbolic acid solution.—*Union Méd.*, October 21.

MISCELLANY.

The Berlin *Gegenwart* of November 15 contains a report of some interesting experiments made by Dunstmaier to test the accuracy of Jäger's theory that the soul of every man and animal is to be sought for in the characteristic odor exhaled in each case. Dunstmaier, who unites in his own person the physiologist and metaphysician, was, until these experiments convinced him of his error, an outspoken opponent of Jäger's views. He is now, however, an enthusiastic convert. Dunstmaier's method was no doubt suggested to him by his familiarity with experimental science. He considered that light and the soul—if the soul is an odor—are both radiated, and that light can be, as it were, collected and fixed by a photographic plate coated with iodide of silver. What body, now, is as sensitive to odors as iodide of silver is to light? Evidently the nerves of smell in a dog. In the centre of the laboratory a cage containing twenty hares was placed, and a dog was admitted to the room. He at once made violent efforts to get at the hares, which, of course, in their terror rushed to and fro in the cage. After two hours of this torture the dog was killed, the nerves of smell and the mucous membrane of the nose removed, and rubbed up in a mortar with glycerin and water. The twenty hares had been exhaling their souls for two hours, and the dog, during all his panting and snuffing, inhaling them for the same length of time. The glycerin might be expected, then, to contain a certain quantity of the soul of the hare, the main characteristic of which is, of course, timidity. That this was the fact the following experiments seemed to prove. A few drops of the extract were administered to a cat: she ran away from some mice instead of pouncing upon them. By the subcutaneous injection of only two cubic centimetres a large mastiff was

rendered so cowardly that he slunk away from the cat. By a similar experiment, in which, however, a young lion in a menagerie played the part of the hares, Dunstmaier succeeded in isolating the soul-substance of courage and in transmitting it to other animals. Still more interesting experiments showed clearly that these "psychotypic" glycerin extracts had a decided effect on the human species. Thus, after swallowing a small dose of psychotypic timidity, Dunstmaier had not the courage to believe in his own great discovery! This effect soon passed off, however. On the other hand, Jäger found a large dose of psychotypic courage of the greatest use while writing his last work on the Jews. Dunstmaier has published his investigations in the first volume of the "Transactions of the German Ozological Society," where our readers can also find the details of some experiments in which a timid, blushing girl was the original radiating body.—*The Nation.*

THE RECEPTION GIVEN TO DR. ATLEE IN NEW YORK.—On Friday evening, December 12, at the residence of Dr. J. Marion Sims, Dr. John L. Atlee, of Lancaster, Pa., was honored with a complimentary reception, which was attended by a great number of prominent men of the profession of New York and other cities, and the veteran surgeon of our State had a greeting which evinced the respect and veneration in which he is held.

Dr. Atlee, now in his eighty-first year, is vigorous and intellectually active, and still in the full tide of practice; and he seemed very happy in meeting so many of his appreciative friends. Amidst the warm geniality of the evening, Dr. Sims read to the assembled company a letter from Prof. Gross, one of the earliest professional friends and admirers of Dr. Atlee, commending his example of intelligent devotion to his work through such a long professional course, and expressed appreciation of the honored record of his pure and stainless life.

From the earliest days of ovariotomy, as practised by its originator, Dr. McDowell, the subject had interested Dr. Atlee, and his first operation, a double ovariotomy, was successfully performed in the year 1843. His example was followed by his distinguished brother, the late Dr. Washington L. Atlee, and from such precedents the operation has become firmly established as one of the great resources of surgery.

This tribute of the medical profession in New York to the toil-won honors of a worthy old surgeon was well bestowed. If there are among our readers those located in provincial regions who feel or fear that their fields of action are too circumscribed and small for the scope of their abilities, we would point to what has been so well done by this intelligent, laborious, and faithful worker in his sphere.

It has been asserted by a high authority that "it is not the amount of work which a man does that distinguishes him, but *what he does well*:" and here is truly an example of a long lifetime of work well done, and high distinction achieved, "far from the madding crowd" of a great city.

PILOCARPINE.—The *British Medical Journal*, after giving several experiments going to show the failure of pilocarpine, says, "Clearly the term oxytocic (hastener of labor) cannot be applied to a drug the effects of which are, after days of misery and dangerous illness, to reduce the patient's health and strength to the lowest ebb, while, perhaps, dilating the os to the size of a half-penny, and most likely not changing it in the smallest degree. Whatever the value of the drug may be, it is not an oxytocic. Professor Demme, of Berne, says that pilocarpine is an efficacious diaphoretic and sialagogue in the treatment of certain diseases of young children. In appropriate doses it is well borne by the younger patients. Unpleasant symptoms are very rare, and can probably be altogether prevented by small doses of brandy before the injection. The cases in which it seems especially suitable are the parenchymatous inflammations of the kidney, with dropsy, following scarlatina and diphtheria. The ages of the patients have been between nine months and twelve years. The doses administered have been from 5 milligr. (gr. $\frac{1}{12}$) to 2 centigr. (gr. iij.)."

FROZEN SECTIONS OF THE HUMAN BODY.—A correspondent of the *Allg. Wien. Med. Zeit.*, of October 21, states that at the meeting of the Munich Medical Society, October 16, Professor Rüdinger exhibited some remarkable results of his manipulation of the human body by frozen sections. Eight of these are carried longitudinally from the crown of the head to the sacral region, and are so connected together that they can be opened or closed just like the leaves of a book,—the fourteen surfaces when exposed exhibiting in their natural form and color all the anatomical details of the various organs. "A most interesting spectacle it was," says the writer, "to have the body in the erect posture before you, and opening or shutting any of these sections. A more complete demonstrative object for clinical instruction cannot be conceived."

THE death is announced of Dr. Soelberg Wells, the famous oculist, as having occurred at Cannes on December 2. Dr. Wells had been in declining health for some months, and is stated to have died of an obscure disease of the liver.

DR. B. LINCOLN RAY, son of Dr. Isaac Ray, the famous alienist, died in this city, December 11.

THE OLD OAKEN BUCKET.

(As revised and edited by a "Sanitarian.")

With what anguish of mind I remember my childhood,
Recalled in the light of a knowledge since gained:
The malarious farm, the wet, fungus-grown wildwood,
The chills then contracted that since have remained;

The scum-covered duck-pond, the pig-sty close by it,
The ditch where the sour-smelling house-drainage fell;
The damp, shaded dwelling, the foul barn-yard nigh it—
But worse than all else was that terrible well,
And the old oaken bucket, the mould-crusted bucket,
The moss-covered bucket that hung in the well.

Just think of it! *Moss* on the vessel that lifted
The water I drank in the days called to mind,
Ere I knew what professors and scientists gifted
In the water of wells by analysis find.
The rotting wood-fibre, the oxide of iron,
The algæ, the frog of unusual size,
The water—impure as the verses of Byron—
Are things I remember with tears in my eyes.

And to tell the sad truth,—though I shudder to think it,—
I considered that water uncommonly clear,
And often at noon, when I went there to drink it,
I enjoyed it as much as I now enjoy beer.
How ardent I seized it with hands that were grimy!
And quick to the mud-covered bottom it fell;
Then soon, with its nitrates and nitrites, and slimy
With matter organic, it rose from the well.

Oh! had I but realized, in time to avoid them,
The dangers that lurked in that pestilent draught,
I'd have tested for organic germs and destroyed them
With potassic permanganate ere I had quaffed;
Or perchance I'd have boiled it and afterwards strained it
Through filters of charcoal and gravel combined,
Or, after distilling, condensed and regained it
In potable form, with its filth left behind.

How little I knew of the dread typhoid fever
Which lurked in the water I ventured to drink!
But since I've become a devoted believer
In the teachings of science, I shudder to think.
And now, far removed from the scenes I'm describing,
The story for warning to others I tell,
As memory reverts to my youthful imbibing,
And I gag at the thought of that horrible well,
And the old oaken bucket, the fungus-grown bucket,—
In fact, the slop-bucket,—that hung in the well.

J. C. Bayles.

—*The Sanitarian.*

NOTES AND QUERIES.

1502 Walnut Street, Philadelphia,
December 25, 1879.

Dr. H. C. Wood,
Editor *Philadelphia Medical Times:*

Dear Doctor,—During my recent visit to London, among the interesting and pleasant reminiscences was a day spent at St. Thomas's Hospital. Twenty years ago I attended, under my friend Dr. Peacock, at old St. Thomas's Hospital, and was always pleased with the activity and energy then displayed by both its medical and surgical staff, and was therefore desirous of contrasting the old with the new. By the courtesy of one of the staff of the new St. Thomas's I carefully inspected every portion, both medical and surgical wards, and was most agreeably pleased with its magnificent buildings, its perfect ventilation and sanitary arrangements throughout, and also to find the wards filled with every variety of medical and surgical diseases.

I also examined their physiological laboratory, microscopical and biological departments, and entered the dissecting-room and dead-house, finding all in most perfect order. In the surgical wards were a number of amputations and resections which had been treated by the antiseptic method, and with the most gratifying success.

After my return, I was much surprised, on receiving my number of the *Medical Times*, to find my ideas completely contradicted by your London correspondent. I therefore sent the same copy to the friend who took me to the hospital, and I send you, for publication, his reply.

Yours truly,
Laurence Turnbull.

St. Thomas's Hospital, London,
December 10, 1879.

Dear Dr. Turnbull,—Thank you very much for giving me the opportunity of saying a word with reference to Dr. Fothergill's attack upon "the whilom proud St. Thomas's." What his special grievance against the staff is I do not know, though it is sufficiently obvious that he has, or thinks he has, one. Dr. Fothergill is quite correct in one point,—when he says that he possesses "no special knowledge" on the subject, but it is rather unfortunate that he did not endeavor to obtain some special knowledge to substantiate his "rumors" before publishing them in such an influential journal as the *Philadelphia Medical Times*. Facts could have been easily obtained; but it is obvious that Dr. Fothergill did not wish for the facts.

With regard to the staff, they are well able to take care of themselves. If they have been snubbed, it has been done very quietly indeed: no one has found it out except Dr. Fothergill. Men naturally "hesitate to offer their services" where there are no vacancies to be filled up, and when vacancies have occurred there has been no lack of applicants.

Many of its wards are *not* closed. It is true that two or three (out of seventeen large wards, besides seven half-wards in the block for infectious diseases) are untenanted, but it is absolutely necessary that there should be some empty wards into which to remove patients when the periodical cleanings of the regularly used wards take place. They are then thoroughly cleaned and disinfected in a manner which would be impossible if all the patients could not be simultaneous y transferred elsewhere. Besides this, the enormous parochial rates extracted from the hospital by the Lambeth authorities (about four thousand pounds per annum) necessitate a smaller expenditure than that which was possible when the hospital was rated at only a nominal amount, as you doubtless know is the practice with regard to all other Royal hospitals in London. Respecting what more nearly concerns myself as a student of St. Thomas's, it is only necessary to point out that there is a mistake in the statements. So far from the students standing lowest in the percentage of passes, they actually stand highest in the pass-examination at the Royal College of Surgeons of England, and are only surpassed by one school at the primary examination at the same college.

I may also remark that for the last three years, at the examination for honors in the degree of M.B. at the University of London, the Gold Medal, given to the candidate who obtains most marks in the examination, has each year been obtained by a St. Thomas's student. Only a few days ago the Gold Medal at the M.D. Honors' examination was won by a St. Thomas's man. Surely facts such as these speak volumes for the excellent teaching of our medical staff.

With very kind regards, believe me, dear Dr. Turnbull,
Your very sincere friend,
A. B. C.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 14 TO DECEMBER 27, 1879.

Forwood, Wm. H., Major and Surgeon.—Relieved from duty in Department of the South, and to report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 280, A. G. O., December 12, 1879.

Cleary, P. J. A., Captain and Assistant-Surgeon.—Assigned to duty at Plattsburg Barracks, N.Y. S. O. 225, Department of the East, December 18, 1879.

Bartholf, J. H., Captain and Assistant-Surgeon.—Granted leave of absence for six months. S. O. 290, A. G. O., December 24, 1879.

Byrne, Charles B., Captain and Assistant-Surgeon.—Granted leave of absence for two months, with permission to apply for an extension of four months. S. O. 287, A. G. O., December 20, 1879.

Havard, V., Captain and Assistant-Surgeon.—His leave of absence extended one month. S. O. 91, Division of the Atlantic, December 22, 1879.

Paulding, H. O., Captain and Assistant-Surgeon.—Granted leave of absence for twenty days, from January 10, 1880. S. O. 224, Department of the East, December 17, 1879.

Hall, William R., First-Lieutenant and Assistant-Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of three months. S. O. 180, Department of the Columbia, December 5, 1879.

Appel, D. M., First-Lieutenant and Assistant-Surgeon. His leave of absence extended one month. S. O. 143, Division of the Missouri, December 17, 1879.